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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,001	02/12/2002	Sergei Mikhailovich Igumnov	24907	5107

7590 02/24/2004  
NATH & ASSOCIATES PLLC  
Sixth Floor  
1030 15th Street, N.W.  
Washington, DC 20005

EXAMINER

LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.      | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 1-5 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.

3. ☐ Claims \_\_\_\_\_ are allowed.

4. ☒ Claims 1-5 are rejected.

5. ☐ Claims \_\_\_\_\_ are objected to.

6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Coronell et al. Coronell et al. disclose a method for synthesis of nitrogen trifluoride by the reaction of a fluorine reactant and an ammonium complex reactant at conditions which will generate nitrogen trifluoride. (See the Abstract and column 2, line 8 - column 3, line 7.) The reaction shown in the Abstract of Coronell et al. shows that the molar ratio of fluorine to the ammonium complex is 3. The difference between the process disclosed by Coronell et al., and that recited in applicant's claims 1, 2 and 5, is that applicant's claims 1, 2 and 5 require that the temperature is  $-20^{\circ}\text{C}$  to  $0^{\circ}\text{C}$ . It would be prima facie obvious to carry out the process of Coronell et al. at a temperature of  $-20^{\circ}\text{C}$  to  $0^{\circ}\text{C}$ , since it would be within the skill of one of ordinary skill in the art to determine a suitable temperature at which to operate the process.

Coronell et al. teach at column 2, lines 37 and 38 that the temperature of the reaction is "preferably" in the range of 93°C to 204°C. Accordingly Coronell et al. contemplate temperatures outside such range, and it would be within the realm of routine experimentation to determine temperatures which would operate outside such range. It is well-settled that non-preferred embodiments in the prior art nevertheless constitute teachings upon which a prima facie case of obviousness may be based. There is no evidence on record showing a higher selectivity of nitrogen trifluoride synthesis in the process of Coronell et al. when employing a reaction temperature of -20°C to 0°C.

Claims 3-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, the recitation of "selected from the group comprising" is improper Markush terminology. In claims 4 and 5, the recitation of "preferably" renders the scope of the claims vague and indefinite.

The other references are made of record for disclosing various processes for preparing nitrogen trifluoride.

This application apparently discloses allowable subject matter (i.e., regarding the subject matter of claims 3 and 4).

Any inquiry concerning this communication or earlier

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communications from the examiner should be directed to Wayne A. Langel whose telephone number is (571) 272-1353. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (571) 272-1358. The fax phone number for this Group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WAL:cdc

February 17, 2004

*Wayne A. Langel*  
WAYNE A. LANGEL  
PRIMARY EXAMINER